Team Project
Group 27-22

Freebees

M2 Submission

Hugo Biais	hxb022@student.bham.ac.uk	2210222
Mohammed Bu Khamsin	mhb061@student.bham.ac.uk	2238761
Man Cheung	mlc212@student.bham.ac.uk	2409212
Yumo Deng	yxd054@student.bham.ac.uk	2196754
Yihong Diao	yxd086@student.bham.ac.uk	2325986
Daniel Dubrov	dxd211@student.bham.ac.uk	2513810
Cheuk Yu Lam	cxl031@student.bham.ac.uk	2250728

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1. S2 Ranking

1.1. Criteria

As a team, we decided on the following criteria to rank the S2 submission, or "What should we be asking ourselves when giving feedback?".

Tech report

- Does it make sense?
- Do you find it helpful for the implementation part? Why? In what way?
- Did you learn new things from it?
- Did it refer to tutorials you could watch to learn more about the subject?

Development prep

- Is the commit message clear and well formatted?
- Does the commit make sense with development of a feature of something that would benefit the team?

Agile estimation (Complicated to judge because time estimate is subjective)

- What do you think about the way the individual decided to do his agile estimation?
- Does it make sense to you? What do you think about it?
- Do you think it's realistic?

1.2. Ranking of submissions 2

Rank	Name	Criteria & Feedback
1st	Man Cheung	**Tech report:** Feedback was generally positive, with the report being clear and well-structured, but some noted that more examples and less use of colorful highlighting would be beneficial. **Development prep:** Overall well-described and structured, but some suggestions to include more detail on external resources and add more specific commits. **Agile estimation:** Feedback was positive, with some suggestions for minor adjustments and noting that estimations are always approximate. Additionally, the provided user stories were well done and helpful.
2nd	Cheuk Yu Lam	**Tech report:** Detailed and well-structured tech report, which covered testing strategies, procedures, and tools, with relevant GitLab commits. They suggest introducing the testing tool used and providing personal conclusions for better testing. **Development prep:** The team praised the clear demonstration of testing work

		with relevant GitLab commits. **Agile estimation:** Clear and concise, with a combination of graphics and descriptions of features and user stories. However, they suggest providing more detail on what would be done during the rest of the semester, using smaller functionalities for estimation, and using the user story method.
3rd	Hugo Biais	**Tech report:** Detailed and relevant GitLab repo commit guidelines with useful links. Some feedback suggests adding information on undoing modifications and rolling back commits. **Development prep:** Clear and concise with detailed accounts of work. Commits have helpful comments, but some feedback suggests adding more information on CI pipeline. **Agile estimation:** Clear, realistic, and detailed with logical user stories and reasonable time estimations. Some feedback suggests adding commit details to the estimation.
4th	Mohammed Bu Khamsin	**Tech report:** Most team members found the tech report clear and informative, with a variety of APIs discussed. However, one member suggested a better structure for comparing different APIs and mentioning other reasons for using Mapbox beyond price. **Development prep:** While some appreciated the detailed explanations, others felt it lacked information on the usage and function of the API. One team member suggested including information on how to implement the API into the project. **Agile estimation:** The overall estimation was deemed realistic and clear, but some felt it could be more descriptive, especially when estimating hours for the more challenging features. One member also suggested including the difficulty level in the estimation.
5th	Daniel Dubrov	**Tech report:** The content is detailed and informative, but some team members found it lacking specific examples and linking them to our project. One team member suggested removing unrelated information to fit the page limit. **Development prep:** The development prep was seen as too high-level and lacking specific details on the chat function and security-related features. One team member suggested including brief explanations of the mentioned videos to save time. **Agile estimation:** The agile estimation was praised for being informative and detailed, but some team members found the time estimations to be unrealistic given our time constraints. One team member suggested being as precise as possible when mentioning time estimation.
6th	Yihong Diao	**Tech report:** Generally well-structured, informative, and detailed with some relevant examples. However, some feedback suggests the SQL statement section was presented in a confusing manner, and some key information was missing. **Development prep:** Mostly clear and concise, but some feedback suggests that it wasn't entirely clear why certain dependencies were added in the GitLab repository. **Agile estimation:** Overall realistic, but some feedback suggests that more time

		could be spent on user stories rather than systematic research on the tech stack. Some also suggest that the estimation could be more detailed and better managed with Kanban cards.
7th	Yumo Deng	**Tech report:** Needs more details and relevant examples. It should describe alternatives and benefits of other frameworks. Good report structure but should include annotations and a demo for better understanding. More explanation is needed on Angular structure and its functionalities. **Development prep:** Unclear why the angular.json file was updated. The commit added unnecessary codes that had to be reverted. Needs better explanation of what was done and why. **Agile estimation:** Realistic and the user story is well described. However, more explanation needed on sub-features and how the estimated time was calculated. Also needs clarification on which method for login.

2. MVP Report

2.1.　　General Overview of FreeBees

FreeBees is a handy platform in the form of web application designed for the locals to give away and take second items for free with aims to minimize waste and promote sustainable living. During the cost-of-living crisis, the app should also be able to offer help to people in need. The achieve these goals, 7 features have been planned: Publish Item, Search Item, Item Management, Chat, Charity, History Log and Login. In the MVP, two of these features, namely *Published Item* and *Search Item*, have been developed to illustrate the basic workflow of the FreeBees web app as they are the essential parts of the application. It is also acknowledged GDPR policy is essential to web application, this however will be introduced separately in length in latter part of this document. The following sections aim to give a brief account of the two features in the MVP, in addition to other features that are under development.

2.2.　　Search Item Feature (in MVP)

https://team27-22.bham.team/item (Hugo and Mohammed worked on this feature)

Search Item Feature is one of the essential features of FreeBees, which propagates a grid view with the items which match the search criteria of the user. It has an input bar and a search button that takes the keyword in the input bar and filters the list of items in the database with the titles that match the keyword. There is also a filter button that takes inputs for tags, owner, and postcode (only owner filter is working for now). Tags and owners should be dropdowns where the user chooses ones that are already in the system rather than typing any word, but for now they are input bars like search. For postcode, it is a simple input bar. After pressing the Apply button, the list is filtered based on the input the user chose. There is a third button linked to the Map View page where the user would find a map to navigate with lists of items spread based by postcodes.

2.2.1. Search Map View page (Under development)

The Map View page would have the same functionalities as the grid view, search bar, filters, and a button that links to the list view. However, it is all displayed by a map using Mapbox API where the items are in lists based on the postcodes. If you search with a keyword, it will send you to the postcode with the items that match that keyword. There would be buttons as pins in the map to open popups showing a list of items in that area. Filters would filter all lists in the map to fit under the filters. This is under development and is not included in the MVP.

2.3.　　Publish Item Feature (in MVP)

https://team27-22.bham.team/item/new (Catrin and Daniel worked on this feature)

Publish Item Feature is one of the essential features of FreeBees, which allows users to publish and share their item with the community.

In the navigation bar, the "Publish Item" button allows users to the page that they can publish to give away. If the user is not logged in, they will be redirect to the login page. If the user is logged in, it will get the currently logged-in account, and show the user a form with required fields title, description, image, and an optional field tag. A "x" button will appear under the image that allows users to deselect an image. If the user missed any of the required fields, there will be a warning underneath. Once the form is submitted, an ID will automatically be generated, and set the item owner to the user who published it. All related fields will be stored in the database via the backend (ItemResource.java and ItemRepository.java). After publishing, it redirects the user back to the Search page with a notice of the added item that has been added to the platform. If the user clicks the "cancel" button, it will ask for confirmation before exiting the page.

Fixes:

The updated data model, so users will need to fill in more information about their item such as condition and location (postcode). Users should be able to upload multiple images and create tag(s) for their items. The warning requiring an image should be shown under the field. After publishing, it should redirect the user to their item list. These changes aim to make it easier for potential receivers to find the item and enhance the overall user experience.

2.4.　　Chat Feature (Under development & What has been done)

The chat features one of the most difficult parts of the whole project and is essential for users to communicate with each other.

The research has shown two possible ways to develop a chat:

- Implementing API
- Self-development

Implementing API didn't require too much time and good knowledge of technologies such as Angular (JavaScript, HTML, CSS) + Spring boot.

The disadvantage of API for chat is that most of them are not free or do not have the required functionality in the free version.

Founded free APIs:

- Dialogflow API
- Botpress API
- Microsoft Bot Framework API
- Wit.ai API

Research has shown that the best option for chat will be to use API for implementing multiple user communication and chat history:

- Dialogflow API (Google Cloud)
- Botpress API (Independent API)

The main points to integrate Dialogflow are the following (Require Google Cloud):

1. Create a Dialogflow agent
2. Enable the Dialogflow API
3. Add the Dialogflow client library to project
4. Create a service to communicate with Dialogflow
5. Integrate the service into the project
6. Implement chat history
7. Add multiple user real-time communication
8. Test and troubleshoot
9. Deploy to production

Self-development requires good knowledge of Angular and Spring Boot. The estimation time based on complexity is much higher and is not impossible due to of short time slots that have been provided for implementing.

2.5.   User authentication & routing (Under development & What has been done)

FreeBees has features that should only be accessible after the user has logged in. To implement that, protection to the routes is required. That means adding a way to check, when a user is accessing a route, what his authentication status is, and depending on that, either let an individual access the page or redirect them somewhere else. So far, this measures on almost all the pages of FreeBees (except the GDPR page) to test this private route feature. The logic for that takes place in the app-routing.module.ts file. To add protection to a route, specifying what role should be granted navigation permission to for a specific route is required. For the admin panel for example, only users with the role admin must be able to access it. Those roles are specified in a data object, in the field authorities which accepts an array of authorities' constants. Then, it is essential attach to that route something that gets as input the authorities that must be able to access that route and take care of the redirect or not. This is done by the user-route-access.service.ts file. As a result, the user is being redirected to '/login' if the authority check returns false.

FreeBees care a lot about implementing routes because allowing unauthenticated user to access our services would possibly trigger functions that a user shouldn't have been able to. FreeBees also want to create the best user experience for our users. Having an unauthenticated user on the profile page would probably either trigger lots of errors or make the UI very confusing with lots of null values, which has to be avoided.

That is why a complete version of the 'register account' feature with an associated email service using a google mail account are close to releasing. In the next release of FreeBees, users will be able to register for a new account. They will then receive a verification email with a link that they need to click on to update the validation state of their account. Once done, they will be able to log in to our platform. User will even be able to change their password via a link received on their email.

2.6.   Charity Feature (Under development & What has been done)

The charity feature will be gradually implemented over the next few weeks. It will enable a charity member representing a charity to create a special account on FreeBees. Once this account has been verified to be related to a charity, the charity member will have access to a different interface. This different interface will still implement some of the features regular users have with the exception of implementing a way to modify/add posts to the charity page, which is normally forbidden to regular users.

2.7.   Item Management Feature (Under development & What will be done)

The item management is currently in the process of being implemented, with members of the team actively working on it. It will enable users to see items they have posted on FreeBees with the functionality of deleting them or editing them. In a future iteration, the user would also be able to see other users who would be interested in the items he has on FreeBees. That would facilitate transactions and meet our goals.

2.8.   Setting feature (Under development & What will be done)

The settings function allows users to personalise their application usage requirements. For this project, the settings function includes appearance settings, account security, donate us.

Appearance settings: Includes two sub-features for adjusting font size and night/light mode. Implementation: provide a mode switch and slider in the front end, then control the background colour and font size in the css file, then send a request to the back end.

Account security: Users can change their password and add or delete their own address. Implementation: After the front-end sends a new password to the back end, the back-end needs to authenticate the user and encrypt the new password. In the database, the password field needs to be updated after verifying the user's identity.

Donate us: Implementation Create an html.file with donation channel information.

3. GDPR policy & DPIA

3.1.   Privacy Policy

The GDPR policy of FreeBees are accessible at teamproject-team27-22/gdpr. A copy of the document (as of 12 Mar 2023) is attached here for reference. The policy document is prepared with reference to https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/ and the GDPR template provided by the module team. The document itself shall be under constant review and thus is subject to change overtime due to for example necessary action in relation change of, for instance, legal bases, as well as suggestion after the ongoing DPIA. The DPO e-mail address (puzzled.sequins_0s@icloud.com) listed below is a genuine E-mail address which can send & receive E-mail temporary created for this project.

FREEBEES PRIVACY POLICY [FOR REFERENCE ONLY]

Last updated March 12, 2023

This privacy notice for Freebee ('**Organisation**', '**we**', '**us**', or '**our**'), describes how and why we might collect, store, use, and/or share ('**process**') your information when you use our services ('**Services**'), such as when you:

- Visit our website at https://team27-22.bham.team/, or any website of ours that links to this privacy notice
- Engage with us in other related ways, including any sales, marketing, or events

Questions or concerns? Reading this privacy notice will help you understand your privacy rights and choices. If you do not agree with our policies and practices, please do not use our Services. If you still have any questions or concerns, please contact us at puzzled.sequins_0s@icloud.com.

3.1.1. SUMMARY OF KEY POINTS

This summary provides key points from our privacy notice, but you can find out more details about any of these topics by clicking the link following each key point or by using our table of contents below to find the section you are looking for.

What personal information do we process? When you visit, use, or navigate our Services, we may process personal information depending on how you interact with Freebee and the Services, the choices you make, and the products and features you use.

Do we process any sensitive personal information? We do not process sensitive personal information.

Do we receive any information from third parties? We do not receive any information from third parties.

How do we process your information? We process your information to provide, improve, and administer our Services, communicate with you, for security and fraud prevention, and to comply with law. We may also process your information for other purposes with your consent. We process your information only when we have a valid legal reason to do so.

How long do we keep your information? We will only keep your personal information for as long as it is necessary for the purposes set out in this privacy notice. No purpose in this notice will require us keeping your personal information for longer than three (3) months past the termination of the user's account.

In what situations and with which parties do we share personal information? We may share information in specific situations and with specific third parties.

How do we keep your information safe? We have organisational and technical processes and procedures in place to protect your personal information. However, no electronic transmission over the internet or information storage technology can be guaranteed to be 100% secure, so we cannot promise or guarantee that hackers, cybercriminals, or other unauthorised third parties will not be able to defeat our security and improperly collect, access, steal, or modify your information.

What are your rights? Depending on where you are located geographically, the applicable privacy law may mean you have certain rights regarding your personal information.

How do you exercise your rights? The easiest way to exercise your rights is by filling out our data subject request form available here: https://team27-22.bham.team/data-request, or by contacting us.

3.1.2. WHAT INFORMATION DO WE COLLECT?

Personal information you disclose to us

In Short: We collect personal information that you provide to us.

We collect personal information that you voluntarily provide to us when you register on the Services, express an interest in obtaining information about us or our products and Services, when you participate in activities on the Services, or otherwise when you contact us.

Personal Information Provided by You. The personal information that we collect depends on the context of your interactions with us and the Services, the choices you make, and the products and features you use. The personal information we collect may include the following:

- usernames
- passwords

Sensitive Information. We do not process sensitive information.

Social Media Login Data. We may provide you with the option to register with us using your existing social media account details, like your Facebook, Twitter, or other social media account. If you choose to register in this

way, we will collect the information described in the section called 'HOW DO WE HANDLE YOUR SOCIAL LOGINS?' below.

All personal information that you provide to us must be true, complete, and accurate, and you must notify us of any changes to such personal information.

3.1.3. HOW DO WE PROCESS YOUR INFORMATION?

In Short: We process your information to provide, improve, and administer our Services, communicate with you, for security and fraud prevention, and to comply with law. We may also process your information for other purposes with your consent.

We process your personal information for a variety of reasons, depending on how you interact with our Services, including:

- **To facilitate account creation and authentication and otherwise manage user accounts.** We may process your information so you can create and log in to your account, as well as keep your account in working order.
- **To save or protect an individual's vital interest.** We may process your information when necessary to save or protect an individual's vital interest, such as to prevent harm.

3.1.4. WHAT LEGAL BASES DO WE RELY ON TO PROCESS YOUR INFORMATION?

In Short: We only process your personal information when we believe it is necessary and we have a valid legal reason (i.e., legal basis) to do so under applicable law, like with your consent, to comply with laws, to provide you with services to enter into or fulfil our contractual obligations, to protect your rights, or to fulfil our legitimate business interests.

The General Data Protection Regulation (GDPR) and UK GDPR require us to explain the valid legal bases we rely on in order to process your personal information. As such, we may rely on the following legal bases to process your personal information:

- **Consent.** We may process your information if you have given us permission (i.e., consent) to use your personal information for a specific purpose. You can withdraw your consent at any time.
- **Legal Obligations.** We may process your information where we believe it is necessary for compliance with our legal obligations, such as to cooperate with a law enforcement body or regulatory agency, exercise or defend our legal rights, or disclose your information as evidence in litigation in which we are involved.

- **Vital Interests.** We may process your information where we believe it is necessary to protect your vital interests or the vital interests of a third party, such as situations involving potential threats to the safety of any person.

3.1.5. WHEN AND WITH WHOM DO WE SHARE YOUR PERSONAL INFORMATION?

In Short: We may share information in specific situations described in this section and/or with the following third parties.

We may need to share your personal information in the following situations:

- **Business Transfers.** We may share or transfer your information in connection with, or during negotiations of, any merger, sale of organisation assets, financing, or acquisition of all or a portion of our business to another company.

3.1.6. DO WE USE COOKIES AND OTHER TRACKING TECHNOLOGIES?

In Short: We may use cookies and other tracking technologies to collect and store your information.

We may use cookies and similar tracking technologies (like web beacons and pixels) to access or store information. Specific information about how we use such technologies and how you can refuse certain cookies is set out in our Cookie Notice.

3.1.7. HOW DO WE HANDLE YOUR SOCIAL LOGINS?

In Short: If you choose to register or log in to our Services using a social media account, we may have access to certain information about you.

Our Services offer you the ability to register and log in using your third-party social media account details (like your Facebook or Twitter logins). Where you choose to do this, we will receive certain profile information about you from your social media provider. The profile information we receive may vary depending on the social media provider concerned, but will often include your name, email address, friends list, and profile picture, as well as other information you choose to make public on such a social media platform.

We will use the information we receive only for the purposes that are described in this privacy notice or that are otherwise made clear to you on the relevant Services. Please note that we do not control, and are not responsible for, other uses of your personal information by your third-party social media provider. We recommend that you review their privacy notice to understand how they collect, use, and share your personal information, and how you can set your privacy preferences on their sites and apps.

3.1.8. HOW LONG DO WE KEEP YOUR INFORMATION?

In Short: We keep your information for as long as necessary to fulfil the purposes outlined in this privacy notice unless otherwise required by law.

We will only keep your personal information for as long as it is necessary for the purposes set out in this privacy notice, unless a longer retention period is required or permitted by law (such as tax, accounting, or other legal requirements). No purpose in this notice will require us keeping your personal information for longer than three (3) months past the termination of the user's account.

When we have no ongoing legitimate business need to process your personal information, we will either delete or anonymise such information, or, if this is not possible (for example, because your personal information has been stored in backup archives), then we will securely store your personal information and isolate it from any further processing until deletion is possible.

3.1.9. HOW DO WE KEEP YOUR INFORMATION SAFE?

In Short: We aim to protect your personal information through a system of organisational and technical security measures.

We have implemented appropriate and reasonable technical and organisational security measures designed to protect the security of any personal information we process. However, despite our safeguards and efforts to secure your information, no electronic transmission over the Internet or information storage technology can be guaranteed to be 100% secure, so we cannot promise or guarantee that hackers, cybercriminals, or other unauthorised third parties will not be able to defeat our security and improperly collect, access, steal, or modify your information. Although we will do our best to protect your personal information, transmission of personal information to and from our Services is at your own risk. You should only access the Services within a secure environment.

3.1.10.   WHAT ARE YOUR PRIVACY RIGHTS?

In Short: In some regions, such as the European Economic Area (EEA) and United Kingdom (UK), you have rights that allow you greater access to and control over your personal information. You may review, change, or terminate your account at any time.

In some regions (like the EEA and UK), you have certain rights under applicable data protection laws. These may include the right (i) to request access and obtain a copy of your personal information, (ii) to request rectification or erasure; (iii) to restrict the processing of your personal information; and (iv) if applicable, to data portability. In certain circumstances, you may also have the right to object to the processing of your personal

information. You can make such a request by contacting us by using the contact details provided in the section 'HOW CAN YOU CONTACT US ABOUT THIS NOTICE?' below.

We will consider and act upon any request in accordance with applicable data protection laws.

If you are located in the EEA or UK and you believe we are unlawfully processing your personal information, you also have the right to complain to your local data protection supervisory authority. You can find their contact details here: https://ec.europa.eu/justice/data-protection/bodies/authorities/index_en.htm.

If you are located in Switzerland, the contact details for the data protection authorities are available here: https://www.edoeb.admin.ch/edoeb/en/home.html.

Withdrawing your consent: If we are relying on your consent to process your personal information, you have the right to withdraw your consent at any time. You can withdraw your consent at any time by contacting us by using the contact details provided in the section 'HOW CAN YOU CONTACT US ABOUT THIS NOTICE?' below or updating your preferences.

However, please note that this will not affect the lawfulness of the processing before its withdrawal nor, will it affect the processing of your personal information conducted in reliance on lawful processing grounds other than consent.

3.1.11.   ACCOUNT INFORMATION

If you would at any time like to review or change the information in your account or terminate your account, you can:

- Log in to your account settings and update your user account.
- Contact us using the contact information provided.

Upon your request to terminate your account, we will deactivate or delete your account and information from our active databases. However, we may retain some information in our files to prevent fraud, troubleshoot problems, assist with any investigations, enforce our legal terms and/or comply with applicable legal requirements.

3.1.12.   COOKIES AND SIMILAR TECHNOLOGIES

Most Web browsers are set to accept cookies by default. If you prefer, you can usually choose to set your browser to remove cookies and to reject cookies. If you choose to remove cookies or reject cookies, this could affect certain features or services of our Services. To opt out of interest-based advertising by advertisers on our Services visit http://www.aboutads.info/choices/.

If you have questions or comments about your privacy rights, you may email us at
puzzled.sequins_0s@icloud.com.

3.1.13. CONTROLS FOR DO-NOT-TRACK FEATURES

Most web browsers and some mobile operating systems and mobile applications include a Do-Not-Track ('DNT') feature or setting you can activate to signal your privacy preference not to have data about your online browsing activities monitored and collected. At this stage no uniform technology standard for recognising and implementing DNT signals has been finalised. As such, we do not currently respond to DNT browser signals or any other mechanism that automatically communicates your choice not to be tracked online. If a standard for online tracking is adopted that we must follow in the future, we will inform you about that practice in a revised version of this privacy notice.

3.1.14. DO CALIFORNIA RESIDENTS HAVE SPECIFIC PRIVACY RIGHTS?

In Short: Yes, if you are a resident of California, you are granted specific rights regarding access to your personal information.

California Civil Code Section 1798.83, also known as the 'Shine The Light' law, permits our users who are California residents to request and obtain from us, once a year and free of charge, information about categories of personal information (if any) we disclosed to third parties for direct marketing purposes and the names and addresses of all third parties with which we shared personal information in the immediately preceding calendar year. If you are a California resident and would like to make such a request, please submit your request in writing to us using the contact information provided below.

If you are under 18 years of age, reside in California, and have a registered account with Services, you have the right to request removal of unwanted data that you publicly post on the Services. To request removal of such data, please contact us using the contact information provided below and include the email address associated with your account and a statement that you reside in California. We will make sure the data is not publicly displayed on the Services, but please be aware that the data may not be completely or comprehensively removed from all our systems (e.g., backups, etc.).

3.1.15. DO WE MAKE UPDATES TO THIS NOTICE?

In Short: Yes, we will update this notice as necessary to stay compliant with relevant laws.

We may update this privacy notice from time to time. The updated version will be indicated by an updated 'Revised' date and the updated version will be effective as soon as it is accessible. If we make material changes to this privacy notice, we may notify you either by prominently posting a notice of such changes or by

directly sending you a notification. We encourage you to review this privacy notice frequently to be informed of how we are protecting your information.

3.1.16. HOW CAN YOU CONTACT US ABOUT THIS NOTICE?

If you have questions or comments about this notice, you may contact our Data Protection Officer (DPO), ML CHEUNG, by email at puzzled.sequins_0s@icloud.com or by post to:

Freebees

ML CHEUNG

University of Birmingham

Birmingham B15 2TT

United Kingdom

3.1.17. HOW CAN YOU REVIEW, UPDATE, OR DELETE THE DATA WE COLLECT FROM YOU?

Based on the applicable laws of your country, you may have the right to request access to the personal information we collect from you, change that information, or delete it. To request to review, update, or delete your personal information, please visit: https://team27-22.bham.team/data-request.

3.2. Cookies Notice

FREEBEES Cookies Notice [FOR REFERENCE ONLY]

Last updated March 15, 2023

3.2.1. HOW DO WE USE COOKIES?

Our Organisation uses cookies in a range of ways to improve your experience on our website, including:

- Keeping you signed in
- Understanding how you use our website

3.2.2. WHAT TYPES OF COOKIES DO WE USE?

There are a number of different types of cookies, however, our website uses:

- **Functionality** – Our website uses these cookies so that we recognize you on our website and remember your previously selected preferences. These could include what language you prefer and location you are in. A mix of first-party and third-party cookies are used.
- **Advertising** – Our website are not using advertising cookies

3.2.3. HOW TO MANAGE COOKIES?

You can set your browser not to accept cookies, and the above website tells you how to remove cookies from your browser. However, in a few cases, some of our website features may not function as a result.

3.2.4. COOKIES AND SIMILAR TECHNOLOGIES

Most Web browsers are set to accept cookies by default. If you prefer, you can usually choose to set your browser to remove cookies and to reject cookies. If you choose to remove cookies or reject cookies, this could affect certain features or services of our Services. To opt out of interest-based advertising by advertisers on our Services visit http://www.aboutads.info/choices/.

If you have questions or comments about your privacy rights, you may email us at puzzled.sequins_0s@icloud.com.

3.2.5. DO WE MAKE UPDATES TO THIS NOTICE?

In Short: Yes, we will update this notice as necessary to stay compliant with relevant laws.

We may update this privacy notice from time to time. The updated version will be indicated by an updated 'Revised' date and the updated version will be effective as soon as it is accessible. If we make material changes to this privacy notice, we may notify you either by prominently posting a notice of such changes or by directly sending you a notification. We encourage you to review this privacy notice frequently to be informed of how we are protecting your information.

3.2.6. HOW CAN YOU CONTACT US ABOUT THIS NOTICE?

If you have questions or comments about this notice, you may contact our Data Protection Officer (DPO), ML CHEUNG, by email at puzzled.sequins_0s@icloud.com or by post to:

Freebees

ML CHEUNG

University of Birmingham

Birmingham B15 2TT

United Kingdom

3.2.7. HOW CAN YOU REVIEW, UPDATE, OR DELETE THE DATA WE COLLECT FROM YOU?

Based on the applicable laws of your country, you may have the right to request access to the personal information we collect from you, change that information, or delete it. To request to review, update, or delete your personal information, please visit: https://team27-22.bham.team/data-request.

3.3.   DPIA form

FreeBees DPIA

[prepared with reference to the DPIA template 20180622 v0.4 from the Information Commissioner's of the United Kingdom]

This DPIA illustrate and record FreeBees' DPIA process and outcome. It follows the process set out in the DPIA guidance provided by the Information Commissioner's Office (ico) of the United Kingdom.

3.3.1. Submitting controller details

Name of controller	MOHAMMD BU KHAMSIN
Title of DPO	Mr
Name of DPO	ML CHEUNG

3.3.2. Step 1: Identify the need for a DPIA

Explain broadly what project aims to achieve and what type of processing it involves. You may find it helpful to refer or link to other documents, such as a project proposal. Summarise why you identified the need for a DPIA.

Explain broadly what project aims to achieve and what type of processing it involves.

The project aims to make it easier for people to find benefactors of the items that they want to get rid of. Its primary goal is to make the process more efficient and environment friendly. It would help the users to search for items near them by postcode/zipcode, or help them find people seeking those items, and then connect them by a chat room. To register to the app, a user would need to provide an email, a name, and a postcode, all stored in a database. A user can add items to the app, and then other people can view said item.

Summarise why you identified the need for a DPIA.

The project is in need of DPIA because it asks for some personal information like personal emails and postcode to contact the user and recommend other users items based on the postcode that the owner has in their profile.

3.3.3. Step 2: Describe the processing

Describe the nature of the processing: how will you collect, use, store and delete data? What is the source of the data? Will you be sharing data with anyone? You might find it useful to refer to a flow diagram or other way of describing data flows. What types of processing identified as likely high risk are involved?

How will we collect and what personal information do we process? When users visit, use, or navigate our Services, we may process personal information depending on how the user interacts with Freebees and the Services, the choices that user makes, and the products and features the user uses.

Do we share any information from third parties? We do not share any information from third parties.

Do we receive any information from third parties? We do not receive any information from third parties.

How do we process users' information? We process information provided by the user to provide, improve, and administer our Services, communicate with the user, for security and fraud prevention, and to comply with law. We may also process users; information for other purposes with users' consent. We process the information provided by the user only when we have a valid legal reason to do so.

How do we keep users' information safe? We have organisational and technical processes and procedures in place to protect the personal information provided by the user. However, no electronic transmission over the internet or information storage technology can be guaranteed to be 100% secure, so we cannot promise or guarantee that hackers, cybercriminals, or other unauthorised third parties will not be able to defeat our security and improperly collect, access, steal, or modify users' information.

How do users exercise their rights? To exercise their rights, users can fill out our data subject request form available here: https://team27-22.bham.team/data-request, or by contacting us. https://team27-22.bham.team/data-request, or contact us. We will consider and act upon any request in accordance with applicable data protection laws.

Describe the scope of the processing: what is the nature of the data, and does it include special category or criminal offence data? How much data will you be collecting and using? How often? How long will you keep it? How many individuals are affected? What geographical area does it cover?

Nature of the data. When users visit, use, or navigate our Services, we may process personal information depending on how the user interacts with Freebees and the Services, the choices that user makes, and the products and features the user uses.

Sensitive Information. We do not process sensitive information such as criminal offence data.

Personal Information Provided by Users. The personal information that we collect depends on the context of users' interactions with us and the Services, the choices that the user makes, and the products and features that the user uses. The personal information we collect may include the following:

- usernames
- passwords
- email
- postcodes

How often and how long do we collect keep the information? We will only keep users' personal information for as long as it is necessary for the purposes set out in this the privacy notice. No purpose in the notice will require us keeping users' personal information for longer than three (3) months past the termination of the user's account.

Geographical area and legal bases. The current version of FreeBees works within the United Kingdom. Therefore, the General Data Protection Regulation (GDPR) and UK GDPR shall be the valid legal bases we rely on in order to process users' personal information. As such, we may rely on the following legal bases to process users' personal information:

Describe the context of the processing: what is the nature of your relationship with the individuals? How much control will they have? Would they expect you to use their data in this way? Do they include children or other vulnerable groups? Are there prior concerns over this type of processing or security flaws? Is it novel in any way? What is the current state of technology in this area? Are there any current issues of public concern that you should factor in? Are you signed up to any approved code of conduct or certification scheme (once any have been approved)?

What is the nature of your relationship with the individuals? The project only aims to connect people in any community, but the nature of the relationship between the development team and the users is merely a relationship of a provider with their customer.

How much control will they have? The users can edit their profile (name, email, password, postcode, tags), add, edit and delete items, and use the chat features to send messages, pictures, videos and any unharmful links.

Would they expect you to use their data in this way? All personal data usage would be explicitly expressed to the users prior to their registration.

Do they include children or other vulnerable groups? No, the app would be restricted to the age of 18 years and more.

Are there prior concerns over this type of processing or security flaws? The concern would be data leakage, which the development team is working on to mitigate.

Is it novel in any way? No, data leakage is a common concern in most apps.

What is the current state of technology in this area? Security is still advancing with data encryption, cloud backups, network protocols, etc.

Are there any current issues of public concern that you should factor in? Data security is one of our priorities to mitigate. For other concerns, for any harmful usage of our application, e.g. scammers, we would have an administration team to minimize any damage a user would cause and ban any harmful users.

Are you signed up to any approved code of conduct or certification scheme (once any have been approved)? No.

Describe the purposes of the processing: what do you want to achieve? What is the intended effect on individuals? What are the benefits of the processing – for you, and more broadly?

What is the intended effect on individuals? We process users' personal information for a variety of reasons, depending on how the user interact with our Services, including:

- **To facilitate account creation and authentication and otherwise manage user accounts.** We may process the user provided information so users can create and log in to their accounts, as well as keep their account in working order.
- **To save or protect an individual's vital interest.** We may process the information when necessary to save or protect an individual's vital interest, such as to prevent harm.

3.3.4. Step 3: Consultation process

Consider how to consult with relevant stakeholders: describe when and how you will seek individuals' views – or justify why it's not appropriate to do so. Who else do you need to involve within your organisation? Do you need to ask your processors to assist? Do you plan to consult information security experts, or any other experts?
We have conducted website user-testing and consultation with adults to help develop our website. We also consult with users, through a feedback questionnaire which includes questions on website usability and services, feedback on the services we provide, and privacy. The consultation is conducted online with users, who have a user account.

3.3.5. Step 4: Assess necessity and proportionality

Describe compliance and proportionality measures, in particular: what is your lawful basis for processing? Does the processing achieve your purpose? Is there another way to achieve the same outcome? How will you prevent function creep? How will you ensure data quality and data minimisation? What information will you give individuals? How will you help to support their rights? What measures do you take to ensure processors comply? How do you safeguard any international transfers?

We only process users' personal information when we believe it is necessary and we have a valid legal reason (i.e., legal basis) to do so under applicable law, like with consent from the user, to comply with laws, to provide users with services to enter or fulfil our contractual obligations, to protect users' rights, or to fulfil our legitimate business interests.

The General Data Protection Regulation (GDPR) and UK GDPR require us to explain the valid legal bases we rely on in order to process users' personal information. As such, we may rely on the following legal bases to process users' personal information:

- **Consent.** We may process users' information if the user has given us permission (i.e., consent) to use the personal information provided by the user for a specific purpose. Users can withdraw their consent at any time.
- **Legal Obligations.** We may process the information provided by the user where we believe it is necessary for compliance with our legal obligations, such as to cooperate with a law enforcement body or regulatory agency, exercise or defend our legal rights, or disclose the users' information as evidence in litigation in which we are involved.
- **Vital Interests.** We may process the information provided by the user where we believe it is necessary to protect users' vital interests or the vital interests of a third party, such as situations involving potential threats to the safety of any person.
- **How do users exercise their rights?** To exercise their rights, users can fill out our data subject request form available here: https://team27-22.bham.team/data-request, or by contacting us. https://team27-22.bham.team/data-request, or contact us. We will consider and act upon any request in accordance with applicable data protection laws.

3.3.6. Step 5: Identify and assess risks

Describe source of risk and nature of potential impact on individuals. Include associated compliance and corporate risks as necessary.	Likelihood of harm	Severity of harm	Overall risk
Data leakage is always a possible harm in any application. However, we seek to only ask for unharmful information to minimize any damage a user would face if data leakage happened. It would be minimal harm because the data is nothing that can identify the user. The risk is low because it isn't harmful, and the need for the personal information is significant for our app to work as intended.	possible	Minimal	Low

3.3.7. Step 6: Identify measures to reduce risk

Identify additional measures you could take to reduce or eliminate risks identified as medium or high risk in step 5				
Risk	Options to reduce or eliminate risk	Effect on risk	Residual risk	Measure approved
Data Leakage	Secure Communication: Websites must use HTTPS protocol to encrypt the data exchanged between a user's browser and the website server. This encryption ensures that any data, such as personal information, login credentials cannot be intercepted or accessed by unauthorized parties.	Reduced	Low	Yes
	Implement User Access Controls: Implementing user access controls to ensure that only authorized users can access sensitive data or perform certain actions on the website.	Reduced	Low	Yes

3.3.8. Step 7: Sign off and record outcomes

Item	Name/position/date	Notes
Measures approved by:	Hugo Biais 12 Feb 2023	Integrate actions back into project plan, with date and responsibility for completion
Residual risks approved by:	Daniel Dubrov 15 Feb 2023	If accepting any residual high risk, consult the ICO before going ahead
DPO advice provided:	ML Cheung 18 Feb 2023	DPO should advise on compliance, step 6 measures and whether processing can proceed
Summary of DPO advice: The use of HTTPS protocol is essential to the project in order to encrypt the data exchanged between a user's browser and the website server. This encryption ensures that any data, such as personal information, login credentials cannot be intercepted or accessed by unauthorized parties. The implementation of user Access Controls ensures that only authorized users can access sensitive data or perform certain actions on the website.		
DPO advice accepted by:	Catrin Lam 10 Mar 2023	If overruled, you must explain your reasons
Comments: The advice provided by the DPO is sensible is therefore approved.		
Consultation responses reviewed by:	Yumo Deng 12 Mar 2023	If your decision departs from individuals' views, you must explain your reasons
Comments: The responses have been thoroughly reviewed.		
This DPIA will kept under review by:	Yihong Diao 15 Mar 2023	The DPO should also review ongoing compliance with DPIA

4. Meeting diary

Previous meetings (up to Week4) were recorded in milestone1.

Week 5: Meeting 11 (Tutor Meeting)	
Date	27 Feb 2023 - 15:30 - 16:00
Venue	CS building, Room 225
Attendees	All members
Agenda	- Review what we submitted for M1, the feedback we received - Share what we've been working on for S2

Discussions	- Clarification on the rubrics of Tech Report
	    - e.g., features/characteristics of certain api in relation to the application
	- How should we assign the report
	- Implementation
	    - search for suitable APIs
	- Clarification on Agile estimation
	    - A list of activities with estimated time required
	    - amount of time for this module
	    - amount of time dedicated to development
	    - each entry should be similar (in terms of hours, e.g.)
	    - Gantt chart

Decisions made	- Start implementation this week & should go along with the report - Assign responsibilities at next team meeting (Tues 28 Feb) - Draft S2 Submission by next tutor meeting (Mon 6 Mar)

Week 5: Meeting 12 (Team Meeting)	
Date	28 Feb 2023 - 18:00 - 19:00
Venue	Library, Room 223
Attendees	All members
Agenda	- Tech report topic

Discussions	- Yihong showed a front-end roadmap to give everyone an idea of what we needed to work on
	- Manni is interested in doing a report on Spring Boot
	- Mohammed will work on Map API
	- We want the others to be working on:
	  - Testing [Catrin]
	  - Security [Daniel]
	  - Angular [Yumo]
	  - Data persistence (DB related) [Yihong]
	  - Using Git for professionals [Hugo] (send email to christian)
	- Every report should help us in the future with the implementation
	- Report should contain links to helpful resources as well
	- We did an introduction to HTML, CSS and Javascript

Decisions made	- Tech report topics decided and assigned:
	  - Spring boot (Manni)
	  - Testing (Catrin)
	  - Security (Daniel)
	  - Angular (Yumo)
	  - Data persistence, DB (Yihong)
	  - Map API (Mohammed)
	  - Git for professional usage (Hugo)
	- For next meeting:
	  - Present a first draft of your report

Week 5: Meeting 13 (Team Meeting)	
Date	2nd March 2023 - 11:00 - 12:00
Venue	Library, Room 223
Attendees	All Members but Hugo
Apologies	Hugo
Agenda	- Going through members research

Discussions	- Map APIs:
	    - Maptiler
	    - Map
	    - Google maps
	    - Open street map
	    - Map box
	- String Boot
	    - Some functionalities of String Boot
	- Security
	    - Weaknesses and problems for security
	    - SSL licence
	- DevOps/Git (Tutor's advice)
	    - Changing Hugo's topic to DevOps
	- Testing
	    - Catrin researched different steps of testing we should go through
	    - Add how to do testing
	- Angular
	    - Basic functionalities of Angular

Decisions made	- EVERYONE WORK ON THE RESEARCH

Week 6: Meeting 14 (Tutor Meeting)	
Date	6 Mar 2023 - 15:30 - 16:00
Venue	CS building, Room 225
Attendees	All members
Agenda	- Show the TA some of our tech reports for feedback
Discussions	- M1 review - Go through our tech reports
Decisions made	-

Week 6: Meeting 15 (Team Meeting)	
Date	7 Mar 2023 - 18:00 - 19:00
Venue	Library, Room 223
Attendees	All members
Agenda	- Kanban estimation

Discussions	- Kanban estimation
	    - Story Points
	    - Hours/Days estimation - Time Tracking

Decisions made	- Upload S2 to one drive folder

Week 6: Meeting 16 (Team Meeting)	
Date	9 Mar 2023 - 11:00 - 12:00
Venue	Library, Room 223
Attendees	All members

Agenda	- Assign tasks for M2:
	    - S2 ranking
	    - Walking skeleton/MVP
	    - GDPR Policy and DPIA form
	- S3 allocations

Discussions	- Using google clouds
	- MVP:
	    - Nav Bar
	    - Publish Item
	    - Item management screen
	    - Search page
	- We can only include the DPIA form in the Register/Log in form, which we don't plan to implement

Decisions made	- Move to Google Clouds after M2
	- Review your kanban cards for implementation
	- Task Assignments
	    - MVP
	        - Publish Item page: Catrin, Daniel
	        - Item management: Manni, Yihong, Yumo
	        - Search page: Mohammed, Hugo
	        - (if time) User authentication
	    - MVP report: (will be assigned to team with least amount of difficulty)
	    - GDPR: Manni, Mohammed
	    - Ranking: Hugo
	    - Meeting diary & S3 task allocation: Can wait until next week (Tuesday before submission)

Week 7: Meeting 17 (Tutor Meeting)	
Date	13 Mar 2023 - 15:30 - 16:00
Venue	CS building, Room 225
Attendees	All members
Agenda	- Show the TA some of our MVP for feedback - What's expected of us in MVP report? What do we need to mention? - Where can we show our GDPR policy in the MVP? - Do we submit the MVP as screenshots or link to each page

Discussions	- For MVP report
	  - Technical details on how we implemented things, what we implemented, which library we used, which API endpoint we used,
	  - We could also add a brief description of the app as part of the MVP report (intro), because the person who will be marking us doesn't know about the project.
	  - Need to think about what we want to include
	  - The link is part of the MVP report, and we guide what's going on in every URL route,
	  - Also say what we've all been working on, as Mohammed and Hugo worked on this feature etc.
	  - Suggestion: have as many information as possible, meaning we can talk about what we haven't done yet and how it will be done.
	  - Add the GDPR policy in the footer, also with copyright?

Decisions made	-

Week 7: Meeting 18 (Team Meeting)	
Date	14 Mar 2023 - 18:00-19:00
Venue	Library, Room 106
Attendees	All members
Agenda	- M2 submission - Kanban Cards && git branches and merging

Discussions	- Kanban Cards
	   – Create a label for everyone
	   – Make 3 columns in General, ToDo, In Progress and Done
	   – For everyone: Assign correct labels to your cards (your name + ToDo/In Progress/Done)

Decisions made	- M2 Submission:
	   - S2 ranking (1: Manni, 2: Catrin, 3: Hugo, 4: Mohammed, 5: Daniel, 6: Yihong, 7: Yumo)- Hugo
	   - MVP report
	      - Everyone work on their feature, what we did and how we implement
	      - Search, Publish and user auth/ route ~ 300 words each.
	      - Otherwise ~200 words total.
	   - GDPR policy & DPIA form - Manni & Mohammed
	   - Meeting diary
	   - Whole report formatting – Manni
	   - S3 Task Allocation
	
	The Deadline is 10am 15 March

5. S3 Task allocation and planning

5.1.   Search Feature Kanban

Search Feature enables user to search item being uploaded to the FreeBees system. It is essential to the web application. Basic Search Feature has been implemented in the MVP. Further development is required in areas such as implementing map API, item sorting functionality as well as refining the view currently implemented in the walking skeleton.
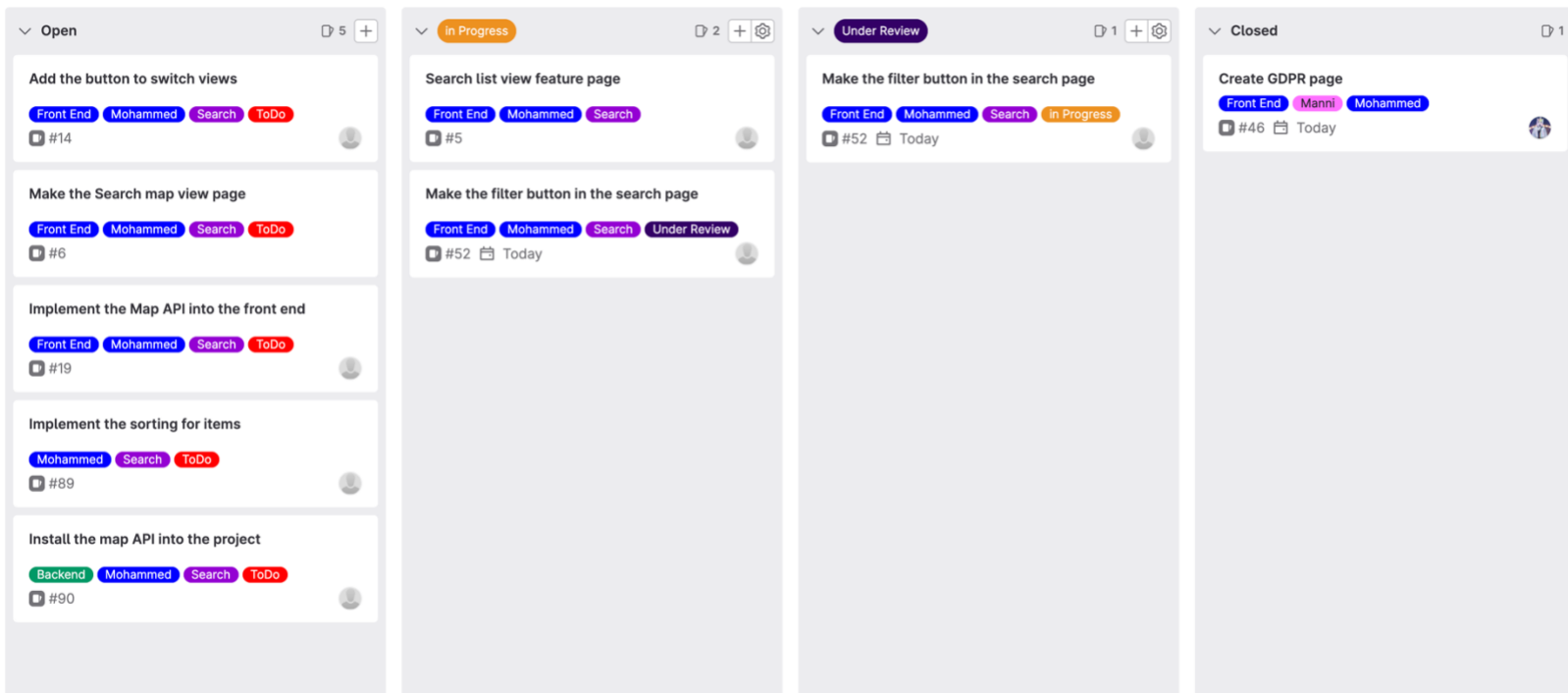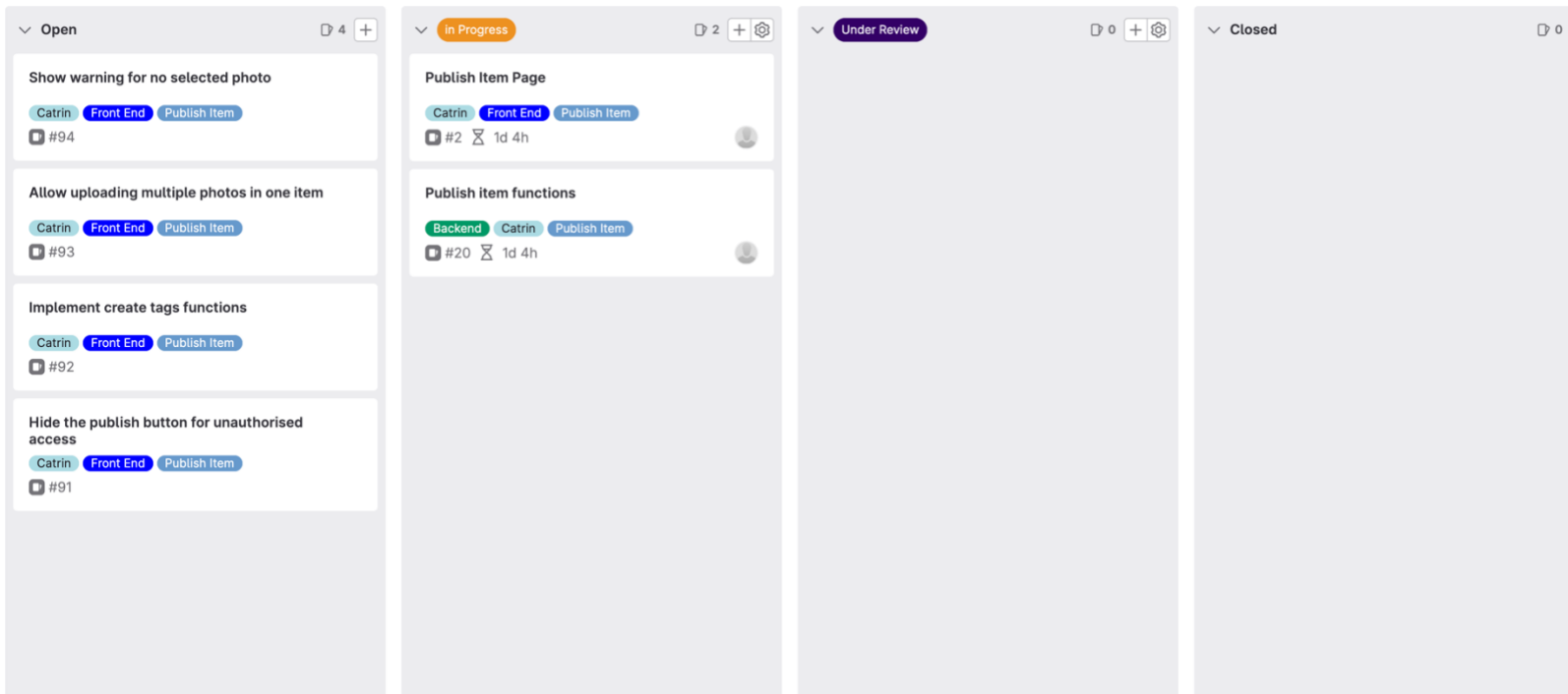

Figure 1 Search Feature Kanban

5.2.   Publish Item Feature Kanban

Publish Feature enables user to publish items to the FreeBees system. It is essential to the web application. Basic Publish Feature has been implemented in the MVP. Further development is required in areas such as implementing tags functionalty as well as multiple photos upload.

Figure 2 Publish Item Feature Kanban

5.3.   Item Management Kanban

Item Management enables individual user to manage their own items that are already uploaded to the FreeBees. It is essential to the web application. This feature has yet to be fully implemented in the MVP. Further development is required in areas such as logic such as restricting authorised access, interested user list which shows users the possible receivers of their item, filtered by tags for example.
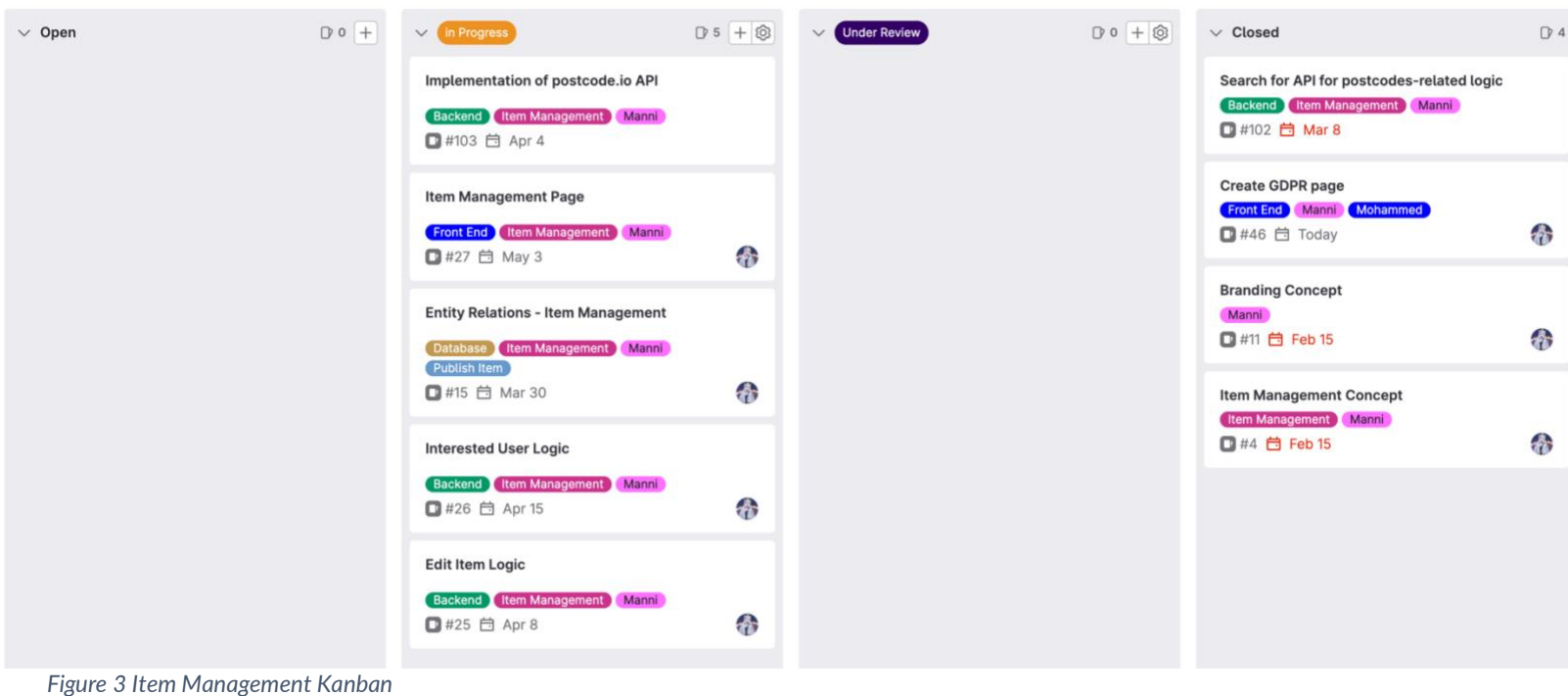

Figure 3 Item Management Kanban

5.4.   Chat Feature Kanban

Chat Feature enables users to interact with each other through our web platform. This feature is crucial as FreeBees does not involve any transaction in terms of buying selling. Rather users on FreeBees chat with other users when they find items that they interested. This feature has yet to be implemented in the MVP. Further development is required in areas such as implementing user authentication, implementing chat history and designing the UI.
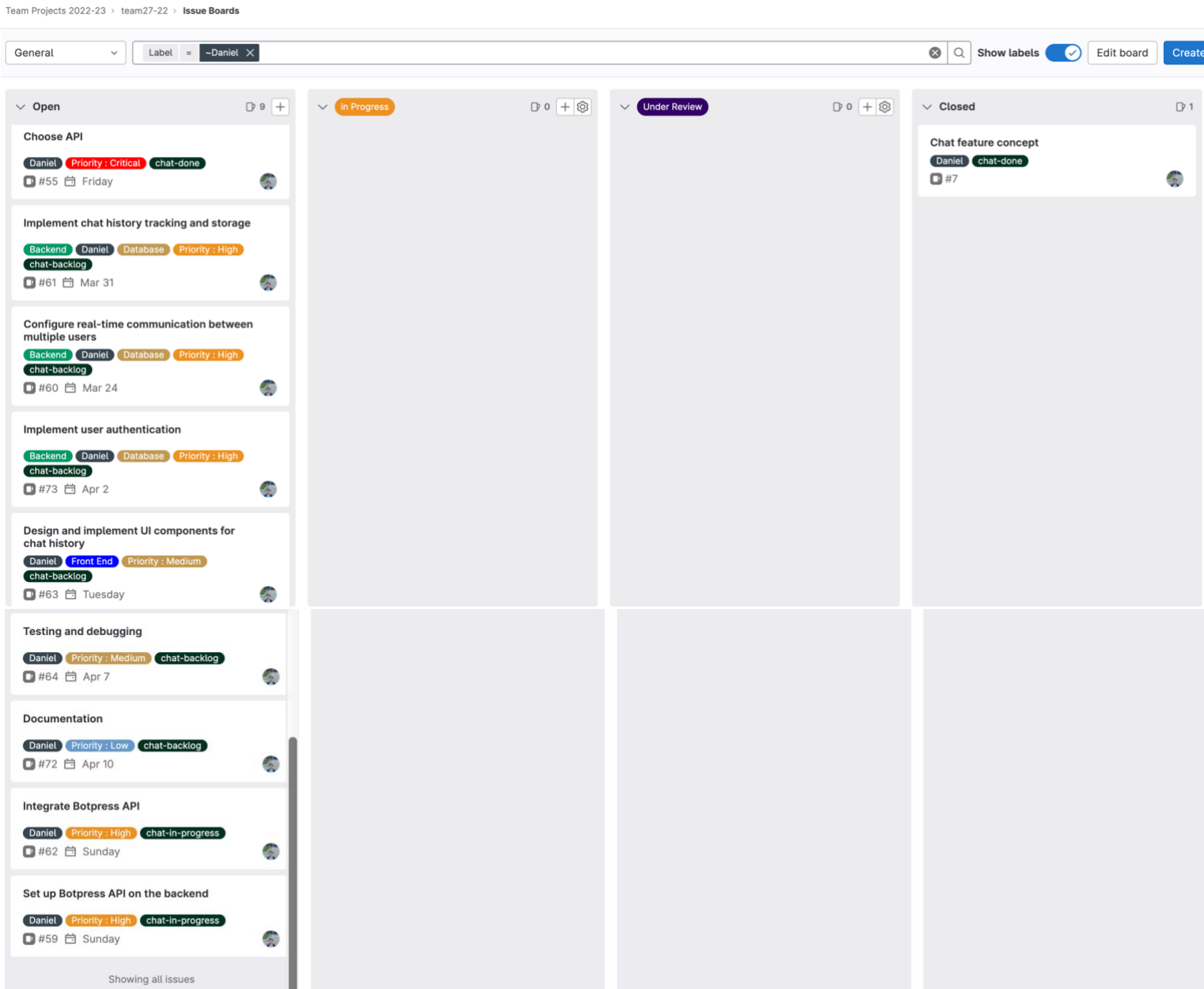

Figure 4 Chat Feature Kanban

5.5. Charity Feature Kanban

The charity feature tackles one of the pain points as it enables a charity member representing a charity to create a special account on FreeBees for the centralisation of item donations process. Once this account has been verified to be related to a charity, the charity member will have access to a different interface. This different interface will still implement some of the features regular users have with the exception of implementing a way to modify/add posts to the charity page, which is normally forbidden to regular users.
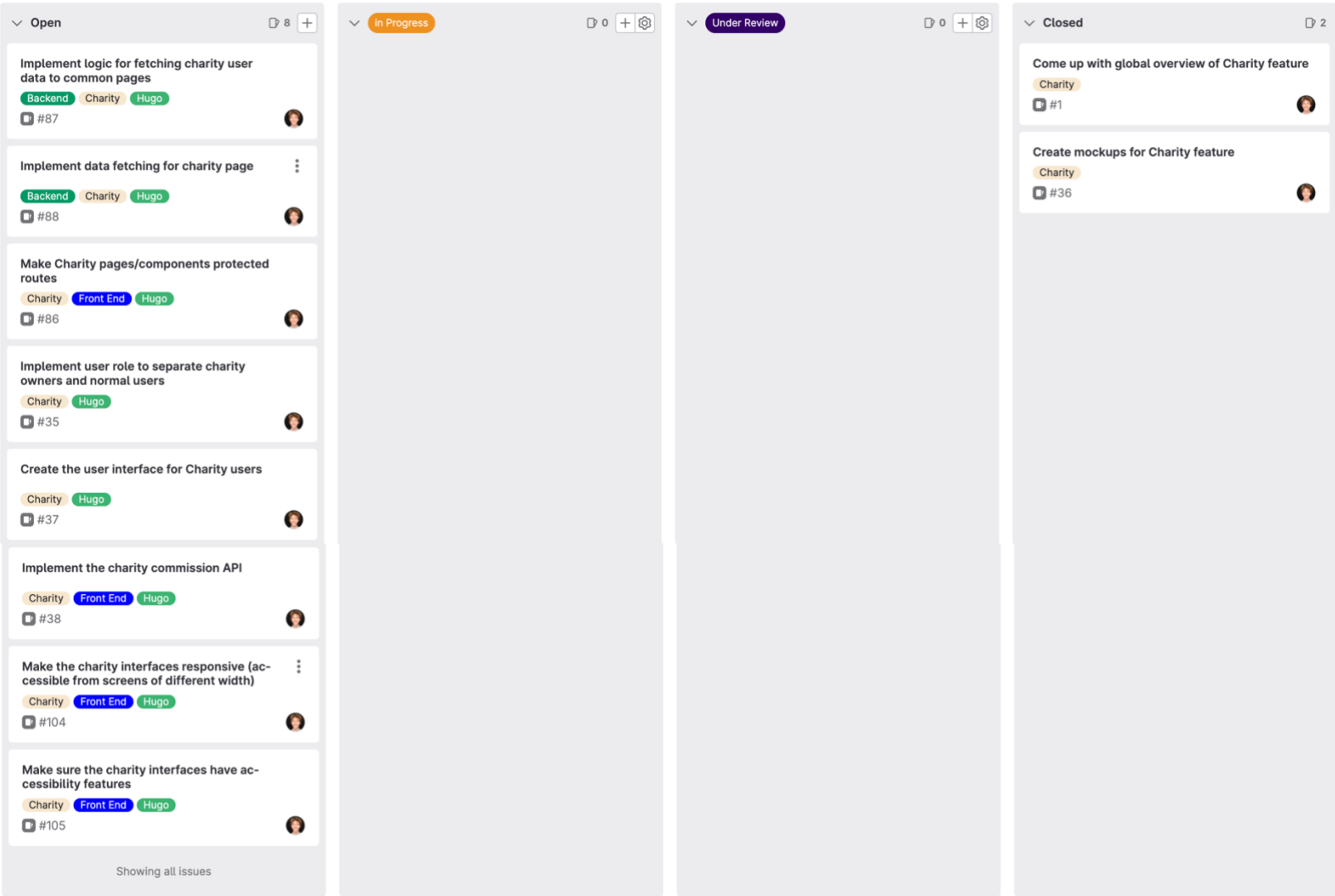

Figure 5 Charity Feature Kanban

5.6.   History and Log Kanban

History and Log Feature enables individual user to evaluate other user' past records of exchanging in terms of rating. This feature has yet to be implemented in the MVP. Further development in areas such as the business logic and entity are required.
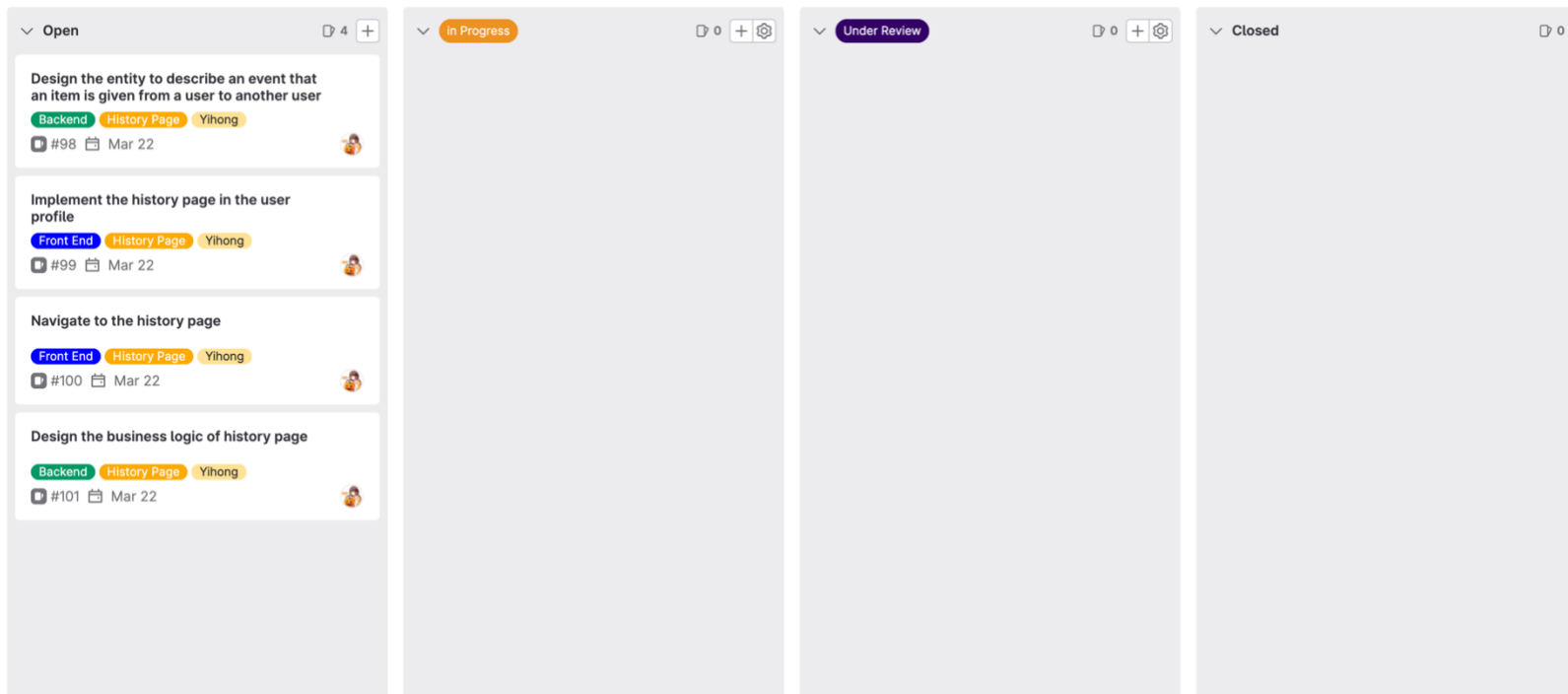

Figure 6 History and Log Kanban

5.7.   Setting and Login Kanban

The Setting and Login features allow users to perform user management functionality. This feature is partly implemented in the MVP with the default settings provided in the JHipster template. Further refinements are required to suit the needs of the FreeBees web application.
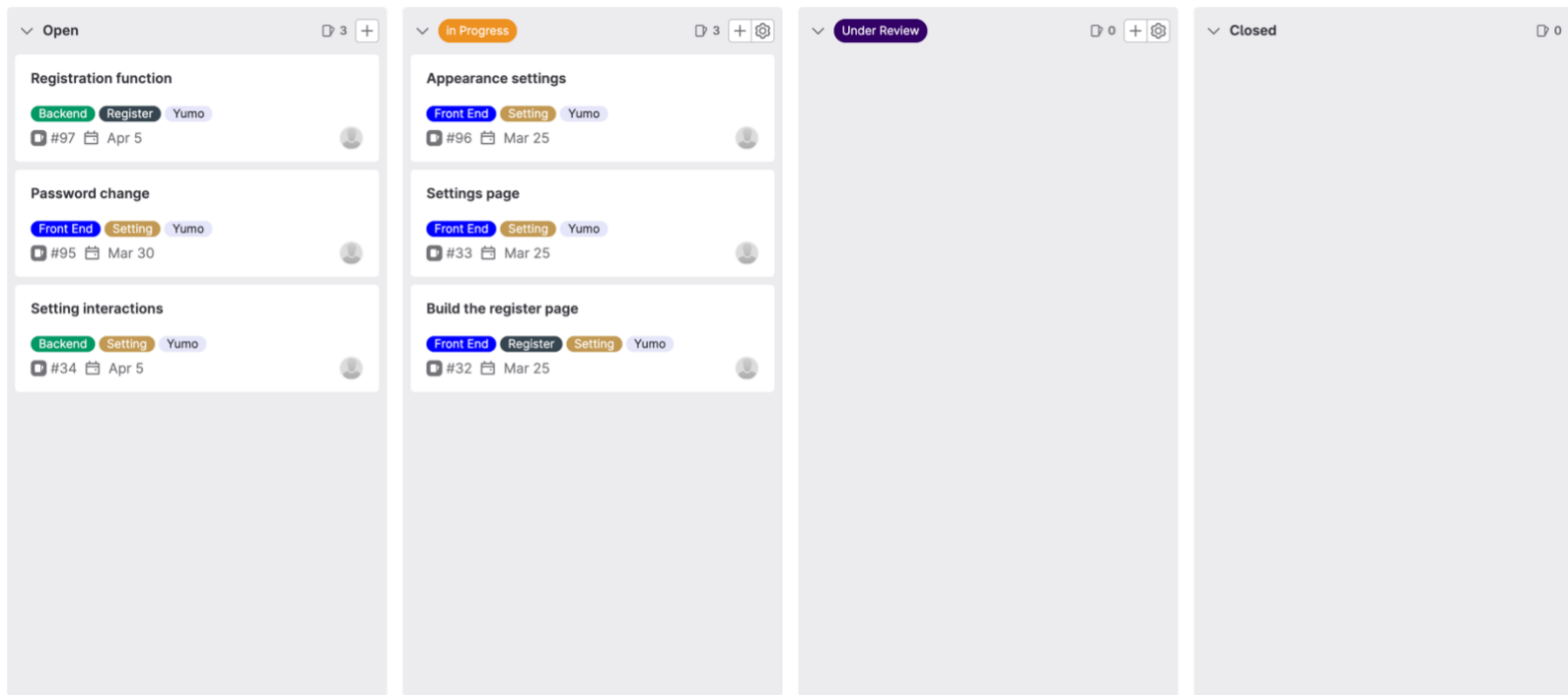

Figure 7 Setting and Login Kanban

5.8.   S3 Task allocation

Each member will be responsible one of the features listed above, as follows:

- Search Feature: Mohammed Bu Khamsin
- Publish Item Feature: Cheuk Yu Lam
- Item Management Feature: Man Cheung
- Chat Feature: Daniel Dubrov
- Charity Feature: Hugo Biais
- History and Log Feature: Yihong Diao
- Setting and Log Feature: Yumo Deng